

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 10/658,703
Conf. No.: : 2306
Applicant : Santi Kulprathipanja, et al.
Filed : September 9, 2003
Title : Phenyl-Alkane Compositions Produced Using An
Adsorptive Separation Section
Art Unit : 1797
Examiner : Singh, Prem C.
Docket No. : 108297

Mail Stop Appeal Brief-Patents

Commissioner for Patents

P.O. Box 1450

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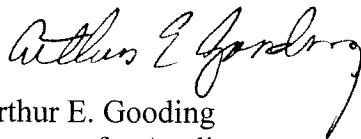
September 10, 2008

**TRANSMITTAL OF REPLY BRIEF TO EXAMINER'S ANSWER
UNDER 37 C.F.R. 41.41**

Dear Sir:

The attached reply is in response to the Examiner's Answer mailed July 16, 2008.

Respectfully submitted,



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REPLY BRIEF TO EXAMINER'S ANSWER UNDER 37 CFR 41.41

Before

Board of Patent Appeals and Interferences

in the

United States Patent & Trademark Office

In re:

U.S. Serial No. 10/658,703

Filed: September 9, 2003

Inventor: Santi Kulprathipanja et al.

Assignee: UOP LLC

Examiner: Prem C. Singh

Art Unit: 1797

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I. Real Parties in Interest

UOP LLC is the real party in interest.

II. Related Appeals and Interferences

There are no pending appeals or interferences known to the Applicants.

III. Status of Claims

A statement of the status of the claims is in the Appeal Brief.

IV. Status of Amendments

No amendments have been filed subsequent to the Final Office Action dated October 19, 2007.

V. Summary of Claimed Subject Matter

A statement of a summary of the claimed subject matter is in the Appeal Brief.

VI. Grounds of Rejection

A statement of the grounds of rejection to be reviewed is in the Appeal Brief.

VII. Response to Examiner's Response

Jones' (US Patent 3,303,233) provides for an alkylbenzene product that is suitable for biologically soft detergents (col. 2, lines 60-63). However, Jones states "[i]t is an object of this invention to produce a detergent containing an alkylaryl group in which the alkyl side chain structure capable of biological degradation during treatment of sewage containing such detergents." (col. 2, lines 54-58). Jones also states "alkylaryl based detergents in which the alkyl portion of the molecule has a relatively straight chain structure, such as the alkyl group illustrated in the first of the two structures above, produce biologically soft detergents." (col. 2, lines 47-50) The structure pointed to is on line 35 and is not a 'lightly branched' structure, but is a linear alkyl group. Any alkylation of a monoolefin with an aromatic group, where the olefin has the double bond between the first and second carbons will alkylate at the second carbon. This does not change Jones uses linear olefins derived from linear alkanes, and not from lightly branched alkanes. A lightly branched alkane is defined in the specification (page 11, line 28 – page 12, line 2) and comprises an alkane having either one alkyl group branch or 3 primary carbons, and comprise preferably more than 85% of the lightly branched

alkanes. Jones uses normal alkanes, and emphasizes that in the conversion to olefins “[t]he dehydrogenation of the normal paraffins must be effected at reaction conditions which minimize isomerization of the normal or straight chain 1-olefins produced by dehydrogenation of the paraffins.” (col 4, lines 27-30).

Jones uses an aluminosilicate zeolite, but there are hundreds of aluminosilicate structures, and each one can be used for different purposes. Jones uses “preferred molecular sieves . . . containing pores of about 5 Angstrom units in cross-sectional diameter which are of sufficient size to permit entry of normal aliphatic compounds having four or more carbon atoms, but are not of sufficient size to permit the entry of branched chain or cyclic compounds.” (col. 5, lines 4-12). Silicalite is not the same as the adsorbent used by Jones as it allows the adsorption of lightly branched acyclic paraffins. Jones discloses the use of normal pentane as a desorbent (col. 10 lines 3-6), but uses isopentane to wash the column before using the desorbent. Jones needs the desorbent to be a small normal alkane. The present invention allows for C5-C8 branched paraffins for use as a desorbent as well as normal pentane. Isopentane is one such desorbent, which does not work with Jones, and this also indicates that the adsorbent (silicalite) is different from the adsorbent that Jones uses because isopentane is not useable as a desorbent, but is used as a wash prior to the desorption step. Jones includes a halogenation step in his dehydrogenation process, which is not a step in the present invention’s process. The halogenation step is to continue with trying to insure linearity of the alkyl group, and while isomerization is minimized, the present invention is not trying to produce a linear alkylbenzene.

The present invention produces a product, modified alkyl benzene, which is a different product from Jones, a linear alkyl benzene, and the differences are not obvious, because using elements of the present invention would defeat Jones, such as using a non-normal alkane for a desorbent. In addition, one of ordinary skill in the art, upon reading Jones, would conclude there is a difference between normal paraffins for use and non-normal paraffins for use in an aromatic alkylation process, whereas the present invention has found that lightly branched paraffins are biodegradable.

Therefore, it is submitted that the invention is not anticipated or obvious over the Jones.

Appendix: Claims

A copy of the appealed claims is contained in the Appendix of the Appeal Brief.

Appendix: Evidence

There is no evidence pursuant to §§ 1.130, 1.131, or 1.132 to be submitted.

Appendix: Related Proceedings

There are no related proceedings.